Science Toolkit: Grade 4 Objective 2.D.1.b

Student Handout: Science: Grade 4 Objective 2.D.1.b

Standard 2.0 Earth/Space Science

Topic D. Astronomy

Indicator 1. Identify and describe the variety of objects in the universe through first-hand observations using the unaided eye, binoculars or telescopes or videos and/or pictures from reliable sources.

Objective b. Identify the sun as the Earth's closest star.

Selected Response (SR) Item

Question

Use the passage below to answer the following:

How Do You Keep a Whole Planet Warm?

Light from the sun warms land, water, and air. In turn, the warmed-up land, water, and air give off heat, which rises up toward the sky. Gases in the Earth's atmosphere capture some of that heat and prevent it from escaping into space. This heat trap keeps the ground, oceans, and air at fairly stable, predictable[1] temperatures—warm enough to allow thousands of plant and animal species (including humans, like us) to thrive.

Without heat trapping, the Earth's surface would be about 60 degrees Fahrenheit colder than it is now. If you're living in a place like Wisconsin, that means you'd have to wear boots and a heavy coat in July. BRRRRR! (We won't even talk about January!) The Earth's overall temperature has changed often across the eras— the long periods of time we use to measure the Earth's age. We know this because paleontologists[2] have studied the fossils of plants and animals, and because geologists[3] can read the Earth's history in rocks and soil. In hotter eras, dinosaurs clomped across warm green landscapes filled with plants. In colder eras, the wooly mammoth survived in rugged terrain of ice and snow.

For the past 10,000 years, the Earth has had relatively stable temperatures. But, for the past 100 years or so, scientists have noticed the Earth seems to be warming up more than usual. This phenomenon[4] is called global warming.

[1]predictable – expected

[2]paleontologists – scientists who study prehistoric times

[3]geologists – scientists who study rocks

[4]phenomenon – something that can be observed

Energy from the sun warms Earth.

The sun is classified as

A. the closest star to Earth
B. the closest moon to Earth

C. the farthest planet from Earth
D. the farthest satellite from Earth

Correct Answer

A. the closest star to Earth

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